

REMARKS

Reexamination and reconsideration of the claims 10 and 12-22, 29 and 30 is respectfully requested. Applicants acknowledge with appreciation the allowance of claims 1-9, 23-28, and 31.

Claims 10, 12, 13 and 15 were rejected under 35 U.S.C. sec. 103(a) applying U.S. Pat. No. 5,165,003 ('003) in view of U.S. Pat. No. 5,422,973 ('973). The '003 patent teaches an optical fiber cable requiring a water-blocking material, i.e. grease, within tube 20. See Fig. 1 and the Abstract of the '003 patent. On the other hand, the '973 patent teaches a dry single tube fiber optic cable that does not have any filling or flooding materials, but nonetheless provides adequate provisions to protect the optical fibers from damage due to water penetration. Specifically, the '973 patent teaches that the optical fibers are held together by a circumscribing water absorbent material and that a water absorbent material circumscribes the strength members in order to block water. See the Abstract of the '973 patent. For patents to be applicable under sec. 103(a), the combination of teachings must, *inter alia*, expressly or inherently, teach, disclose, or suggest each and every feature of the claimed invention. Additionally, motivation and suggestion to combine the patents must be present.

It is respectfully submitted that Office Action misinterpreted the patents. Specifically, the purported combination does not teach, disclose, or otherwise suggest each and every feature of claim 10. The purported modification suggests that the grease can merely be removed from the cable of the '003 reference. The skilled artisan would have understood that removing the grease may render the cable inoperable for its intended purpose. Moreover, the skilled artisan would have understood that the filling grease serves several functions in addition to water-blocking. Therefore, the skilled artisan would not be motivated to remove the grease unless another functional

10/005,325

C0012

Page 7

equivalent was provided for water-blocking and other functions. The purported modification completely ignores these issues.

First, the grease serves a cushioning function for the optical fibers. Optical fibers are fairly sensitive to forces that can attenuate the optical signal. In other words, the grease serves to cushion the optical fibers from the tube wall during, for example, bending of the cable. In the '973 patent each bundle of optical waveguides 10 is circumscribed by a water absorbent yarn or tape 12. Additionally, the plurality of bundles 10 are circumscribed by a second absorbent yarn or tape 14. See Figs. 1-3 and Cols. 1-2, ll. 65-9 of the '973 patent. Thus, the absorbent yarns or tapes 12, 14 of '973 patent also serve a cushioning function. On the other hand, the purported modification removes the grease and no other cushioning is provided.

Second, the grease of the '003 cable serves a coupling function. In other words, the grease couples the optical fibers to the tube, thereby inhibiting migration of the optical fibers. Without coupling, the optical fibers may move significant distances, for example, when the cable is pulled-in during installation. Again, the purported modification removes the grease, thereby eliminating the coupling of the optical fibers with the tube without a functional equivalent.

Third, the grease of the '003 cable maintains the shape of tube 20 during extrusion. The grease is injected during the extrusion of tube 20, thereby helping maintain the circular shape of tube 20. Without grease the tube may collapse which is a catastrophic manufacturing failure or the tube may take on an oval shape. The skilled artisan would have understood that an oval shaped tube is undesirable because it results in a cable jacket with thinner regions near the major diameter of the tube. The skilled artisan generally desires a cable jacket having a uniform thickness. Moreover, if the tube is oval it can be

difficult to coil the cable. Thus, the skilled artisan would want to avoid this problem.

Additionally, if the grease is removed from tube 20 of the '003 cable it would not have any water protection. Simply stated, the skilled artisan would not be motivated to remove the grease from tube 20 and leave the cable unprotected from water penetration or migration. As evidenced by the '973 patent, the grease was removed and water absorbent yarns and tapes were provided for water protection both inside of buffer tube 18 and outside buffer tube 18. See the Abstract of the '973 patent.

If the skilled artisan were to modify the '003 patent with the '973 patent to arrive at a dry cable, the grease would be replaced by the water absorbent tapes or yarns 10,12 located inside the buffer tubes. Furthermore, the '973 patent teaches another water absorbent tape being wrapped about the buffer tube. Thus, this modification using water-absorbent yarns or tapes does not teach each and every limitation of claim 10. Clearly, this position is supported by objective evidence of record.

On the other hand, the Office Action does not provide any concrete evidence of record why the grease would not be replaced by the water absorbent yarns or tapes of the '973 patent. For at least these reasons, the withdrawal of the sec. 103(a) rejection of claims 10, 12, 13 and 15 is warranted and respectfully requested.

Claim 14 was rejected under 35 U.S.C. sec. 103(a) applying the '003 and '973 patents in view of U.S. Pat. No. 5,561,730 ('730). For at least the reasons stated above with respect to claim 10, withdrawal of the sec. 103(a) rejection of claim 14 is warranted and is respectfully requested.

Claims 16-20 and 22 were rejected under 35 U.S.C. sec. 103(a) applying the '003 and '973 patents in view of U.S. Pat. No. 5,345,526 ('526). For at least the reasons stated above with respect to claim 10, withdrawal of the sec. 103(a) rejection of

claims 16-20 and 22 is warranted and is respectfully requested.

Claim 21 was rejected under 35 U.S.C. sec. 103(a) applying the '003, '973, '526, and '730 patents. For at least the reasons stated above with respect to claim 16, withdrawal of the sec. 103(a) rejection of claim 21 is warranted and is respectfully requested.

Claim 29 was rejected under 35 U.S.C. sec. 103(a) applying the '003 and '973 patents in view of U.S. Pat. No. 6,167,178 ('178). For at least the reasons stated above with respect to claim 10, withdrawal of the sec. 103(a) rejection of claim 29 is warranted and is respectfully requested.

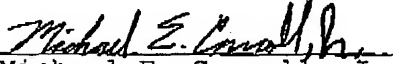
Claim 30 was rejected under 35 U.S.C. sec. 103(a) applying the '003, '973, '526, and '178 patents. For at least the reasons stated above with respect to claim 16, withdrawal of the sec. 103(a) rejection of claim 30 is warranted and is respectfully requested.

No new fees are believed due in connection with this Reply. If any fees are due in connection with this Reply, please charge any fees, or credit any overpayment, to Deposit Account Number 19-2167.

Allowance of all pending claims is believed to be warranted and is respectfully requested.

The Examiner is welcomed to telephone the undersigned to discuss the merits of this patent application.

Respectfully submitted,

  
Michael E. Carroll, Jr.  
Attorney  
Reg. No. 46,602  
P.O. Box 489  
Hickory, N. C. 28603  
Telephone: 828/901-6725

Date: January 21, 2004

10/005,325

C0012

Page 10